



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,679	03/18/2004	Robert L. Koelzer	01925-P0214A	7322
24126	7590	01/07/2008		
ST. ONGE STEWARD JOHNSTON & REENS, LLC 986 BEDFORD STREET STAMFORD, CT 06905-5619				
			EXAMINER	
			STIMPert, PHILIP EARL	
			ART UNIT	PAPER NUMBER
			3746	
			MAIL DATE	DELIVERY MODE
			01/07/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/803,679

Applicant(s)

KOELZER ET AL.

Examiner

Philip Stimpert

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 4-7, 9, 11-24 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 10 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 and 14 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 8, 10, and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii et al. (US 2001/0008607) in view of Frase et al. (US 4,526,485).
3. Regarding claim 1, Fujii et al. teach a compressor, comprising a housing (11-14), a shaft (17) disposed in the housing and having a longitudinal axis, an inner swash plate portion (22) attached to the shaft (paragraph 24) at a fixed angle (Fig. 1) to the longitudinal axis of the shaft, an outer swash plate portion (26) coupled to the inner swash plate portion (22), and a bearing assembly (24, 25) by which the outer swash plate portion (26) is coupled to the inner swash plate portion (22). Further, Fujii et al. teach that the bearing assembly (24, 25) is adapted to accommodate both radial load and axial load of the swash plate portions (paragraph 25, "thrust bearing" and "radial bearing"). Fujii et al. do not teach that the plurality of bearings in their bearing assembly (24, 25) are each adapted to accommodate both the radial and axial load of the swash plate portions.
4. Frase et al. teach a sealed rolling element bearing which, as shown in Fig. 1 of Frase et al. comprises an angular contact bearing. In particular, Frase et al. teach that their sealed bearings have several benefits, including simplification of design (col. 1, ln.

12-13), reduction of problems in assembly (col. 1, ln. 15-18), and prevention of fouling damage to the bearing (col. 1, ln. 37-40 and 47-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the compressor of Fujii et al. to substitute the bearing assembly provided with an angular contact bearing as taught by Frase et al. in order to simplify construction and prevent fouling damage to the bearing. The angular contact bearing could be provided surrounding element 22B and within 26. It should be noted that the individual bearings in the bearing assembly disclosed by Frase et al. would each be capable of bearing both the axial and radial loads of the swash plate portions, due to its nature as a double row angular contact bearing (Fig. 1).

5. Regarding claim 2, Fujii et al. teach that the inner swash plate (22) is integrally formed (paragraph 24) with the shaft (17).

6. Regarding claim 3, the bearing assembly of the combination as taught by Frase et al. constitutes an angular contact bearing.

7. Regarding claim 8, the combined references teach the limitation that the bearing assembly is a double row angular contact bearing (Fig. 1).

8. Regarding claim 10, the combined references teach the limitation that the bearing is a sealed double row bearing (Fig. 1).

9. Regarding claim 25, the combined references teach a compressor, comprising a housing (Fujii et al., 11-14), a shaft (17) disposed in the housing and having a longitudinal axis, an inner swash plate portion (22) attached to the shaft (paragraph 24) at a fixed angle (Fig. 1) to the longitudinal axis of the shaft, an outer swash plate portion

(26) coupled to the inner swash plate portion (22), and an angular contact bearing (Frase et al., 1) by which said outer swash plate portion (26) is coupled to said inner swash plate portion (22).

Response to Arguments

10. Applicant's arguments, see page 7, lines 7-15, filed 10/1/2007, with respect to rejection under 35 U.S.C. 102(b) of claims 1-2 have been fully considered and are persuasive. The rejection of claims 1-2 under 35 U.S.C. 102(b) has been withdrawn.

11. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as noted, the patent to Frase et al. teaches a number of advantages of its disclosed sealed angular contact bearing. As one of ordinary skill in the art would recognize, a rotary bearing such as that taught by Frase et al. would have wide applicability in many different types of rotary machines. One of ordinary skill in the art of compressor design would also be aware that improvements in various constituent components of compressors, such as bearings, could be relatively easily adapted into compressor design. As such, the examiner maintains that claims 3, 8, 10, and 25 are obvious over Fujii et al. in view of Frase et al.

12. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Application/Control Number:
10/803,679
Art Unit: 3746

Page 6

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Stimpert whose telephone number is (571) 270-1890. The examiner can normally be reached on Mon-Fri 7:30AM-4:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PES

PES
1/4/2008

DEVON C. KRAMER
PATENT EXAMINER

Devon Kramer
1/4 01/04/07